

Report of Test

LLIA001067-002A

Catalog Number: 3-543 Orion Vanity

Surface wall mounted, formed steel housing, formed white enamel steel LED tray, translucent white plastic enclosure.

72 white LEDs, one Harvard Engineering LER7-568x17-930-72S-I LED board

One ERP ESS015W-0350-42 dimmable LED driver.

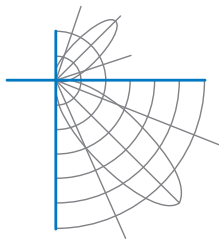
120.0Vac, 60.00Hz, 0.1167A, 13.80W, 0.986PF, 13.4%THD(i)



Performance Summary

Total Light Output	1233 lm
Luminaire Power	13.8 W
Luminous Efficacy	89.3 lm/W

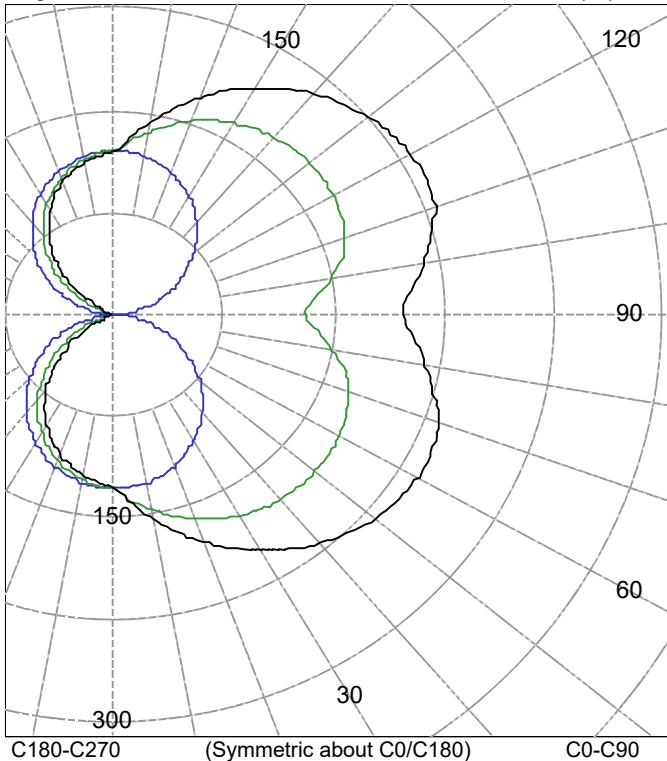
PREPARED FOR : Oxygen Lighting, 201 Railhead Road, Fort Worth, TX 76106, USA



Test Report No. LLIA001067-002A

Catalog Number: 3-543 Orion Vanity
Surface wall mounted, formed steel housing, formed white enamel steel LED tray, translucent white plastic enclosure.
72 white LEDs, one Harvard Engineering LER7-568x17-930-72S-I LED board
One ERP ESS015W-0350-42 dimmable LED driver.
120.0Vac, 60.00Hz, 0.1167A, 13.80W, 0.986PF, 13.4%THD(i)

Legend: C0/C180-Black, C45/C225-Green, C90/C270-Blue (cd)



C180-C270 (Symmetric about C0/C180) C0-C90

AVERAGE LUMINANCE (cd/m²)

Gamma	C0	C45	C90
45.0	5869	5274	4102
55.0	6220	5491	3831
65.0	6568	5760	3479
75.0	6741	6032	2952
85.0	6894	6039	1673

INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	128	128	128	128	128	
5.0	140	139	138	130	128	13
10.0	153	151	146	133	126	
15.0	166	163	154	136	123	38
20.0	179	174	161	137	119	
25.0	190	184	167	137	114	62
30.0	201	193	171	137	108	
35.0	211	201	175	135	101	81
40.0	220	208	178	133	93	
45.0	227	214	179	130	85	93
50.0	233	219	180	125	76	
55.0	237	222	179	120	66	97
60.0	239	223	178	115	56	
65.0	239	222	175	108	46	93
70.0	235	218	170	102	36	
75.0	226	209	164	95	26	83
80.0	216	198	152	86	17	
85.0	205	187	139	74	7	70
90.0	198	180	131	65	0	

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	112	N / A	9.1
0-40	193	N / A	15.6
0-60	382	N / A	31.0
0-90	628	N / A	50.9
40-90	435	N / A	35.3
60-90	245	N / A	19.9
90-180	605	N / A	49.1
0-180	1233	N / A	100.0

Total Light Output = 1,233 lm

Spacing Criterion: 0-180 2.3
Spacing Criterion: 90-270 1.3

Signed:

Authorized Signatory

Date of test 14-Jan-2019
Date of report 15-Jan-2019



Test Report No. LLIA001067-002A

Catalog Number: 3-543 Orion Vanity

Surface wall mounted, formed steel housing, formed white enamel steel LED tray, translucent white plastic enclosure.

72 white LEDs, one Harvard Engineering LER7-568x17-930-72S-I LED board

One ERP ESS015W-0350-42 dimmable LED driver.

120.0Vac, 60.00Hz, 0.1167A, 13.80W, 0.986PF, 13.4%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
0.0	128	128	128	128	128
2.5	133	133	133	128	129
5.0	140	139	138	130	128
7.5	147	145	142	132	127
10.0	153	151	146	133	126
12.5	160	157	150	134	125
15.0	166	163	154	136	123
17.5	173	168	157	136	121
20.0	179	174	161	137	119
22.5	185	179	164	137	117
25.0	190	184	167	137	114
27.5	196	188	169	137	111
30.0	201	193	171	137	108
32.5	206	197	173	136	105
35.0	211	201	175	135	101
37.5	216	205	177	134	97
40.0	220	208	178	133	93
42.5	224	211	179	131	89
45.0	227	214	179	130	85
47.5	230	217	180	128	81
50.0	233	219	180	125	76
52.5	235	220	180	123	71
55.0	237	222	179	120	66
57.5	238	222	179	117	61
60.0	239	223	178	115	56
62.5	239	223	177	112	51
65.0	239	222	175	108	46
67.5	238	221	173	105	41
70.0	235	218	170	102	36
72.5	231	215	167	98	31
75.0	226	209	164	95	26
77.5	221	204	158	91	22
80.0	216	198	152	86	17
82.5	210	193	145	81	12
85.0	205	187	139	74	7
87.5	199	182	133	68	3
90.0	198	180	131	65	0



Test Report No. LLIA001067-002A

Catalog Number: 3-543 Orion Vanity

Surface wall mounted, formed steel housing, formed white enamel steel LED tray, translucent white plastic enclosure.

72 white LEDs, one Harvard Engineering LER7-568x17-930-72S-I LED board

One ERP ESS015W-0350-42 dimmable LED driver.

120.0Vac, 60.00Hz, 0.1167A, 13.80W, 0.986PF, 13.4%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
90.0	198	180	131	65	0
92.5	198	181	133	68	3
95.0	204	186	138	73	7
97.5	209	192	144	80	11
100.0	215	197	150	85	16
102.5	219	202	156	89	21
105.0	224	207	162	92	25
107.5	229	212	165	96	30
110.0	233	216	167	99	35
112.5	234	217	169	102	39
115.0	235	218	171	105	44
117.5	235	218	172	107	49
120.0	234	218	173	110	53
122.5	233	217	174	113	58
125.0	231	216	174	115	62
127.5	229	214	174	117	67
130.0	227	212	174	119	71
132.5	224	210	173	121	76
135.0	220	207	173	123	80
137.5	216	204	172	125	84
140.0	212	201	170	126	88
142.5	208	197	169	127	91
145.0	203	193	167	128	95
147.5	198	189	165	129	98
150.0	193	185	163	129	101
152.5	187	180	160	129	104
155.0	182	175	158	129	107
157.5	176	170	155	129	110
160.0	170	165	151	129	112
162.5	164	159	148	128	114
165.0	157	154	144	127	116
167.5	151	148	141	126	117
170.0	144	142	137	124	118
172.5	138	136	132	123	119
175.0	131	130	128	121	120
177.5	125	124	124	119	120
180.0	120	120	120	120	120



Test Report No. LLIA001067-002A

Catalog Number: 3-543 Orion Vanity

Surface wall mounted, formed steel housing, formed white enamel steel LED tray, translucent white plastic enclosure.

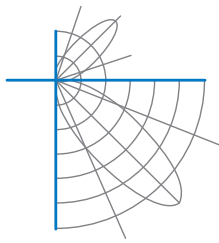
72 white LEDs, one Harvard Engineering LER7-568x17-930-72S-I LED board

One ERP ESS015W-0350-42 dimmable LED driver.

120.0Vac, 60.00Hz, 0.1167A, 13.80W, 0.986PF, 13.4%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C90	C112.5	C135	C157.5	C180
0.0	128	128	128	128	128
2.5	129	125	128	127	126
5.0	128	124	127	125	124
7.5	127	123	126	124	123
10.0	126	122	124	122	121
12.5	125	120	122	119	118
15.0	123	118	120	117	115
17.5	121	116	117	114	112
20.0	119	114	114	110	109
22.5	117	111	111	107	105
25.0	114	108	107	103	101
27.5	111	105	103	99	97
30.0	108	102	99	94	93
32.5	105	98	95	90	88
35.0	101	94	90	85	82
37.5	97	90	86	79	77
40.0	93	86	81	74	71
42.5	89	82	76	68	66
45.0	85	77	70	62	60
47.5	81	73	65	56	54
50.0	76	68	59	50	47
52.5	71	63	53	44	41
55.0	66	58	47	38	35
57.5	61	52	41	32	29
60.0	56	47	35	26	23
62.5	51	42	29	20	17
65.0	46	36	23	14	12
67.5	41	31	17	9	7
70.0	36	25	12	4	2
72.5	31	20	7	0	0
75.0	26	14	2	0	0
77.5	22	9	0	0	0
80.0	17	4	0	0	0
82.5	12	0	0	0	0
85.0	7	0	0	0	0
87.5	3	0	0	0	0
90.0	0	1	0	0	0



Test Report No. LLIA001067-002A

Catalog Number: 3-543 Orion Vanity

Surface wall mounted, formed steel housing, formed white enamel steel LED tray, translucent white plastic enclosure.

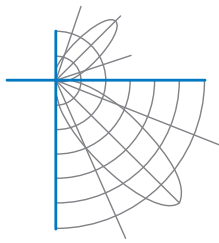
72 white LEDs, one Harvard Engineering LER7-568x17-930-72S-I LED board

One ERP ESS015W-0350-42 dimmable LED driver.

120.0Vac, 60.00Hz, 0.1167A, 13.80W, 0.986PF, 13.4%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C90	C112.5	C135	C157.5	C180
90.0	0	1	0	0	0
92.5	3	0	0	0	0
95.0	7	0	0	0	0
97.5	11	0	0	0	0
100.0	16	3	0	0	0
102.5	21	8	0	0	0
105.0	25	13	1	0	0
107.5	30	18	6	0	0
110.0	35	24	10	3	1
112.5	39	29	16	7	5
115.0	44	34	21	13	10
117.5	49	39	27	18	15
120.0	53	44	33	24	21
122.5	58	49	38	30	27
125.0	62	54	44	36	33
127.5	67	59	49	42	39
130.0	71	64	55	47	45
132.5	76	68	60	53	51
135.0	80	73	66	59	57
137.5	84	77	71	64	62
140.0	88	81	75	70	68
142.5	91	85	80	75	73
145.0	95	88	85	80	78
147.5	98	92	89	84	83
150.0	101	95	93	89	88
152.5	104	99	97	93	92
155.0	107	102	100	97	96
157.5	110	104	103	100	100
160.0	112	107	107	104	103
162.5	114	109	109	107	106
165.0	116	111	112	110	109
167.5	117	113	114	112	112
170.0	118	115	116	114	114
172.5	119	116	118	116	116
175.0	120	117	119	118	117
177.5	120	118	120	119	119
180.0	120	120	120	120	120



Test Number: LLIA001067-002A

Catalog Number: 3-543 Orion Vanity

Surface wall mounted, formed steel housing, formed white enamel steel LED tray, translucent white plastic enclosure.

72 white LEDs, one Harvard Engineering LER7-568x17-930-72S-I LED board

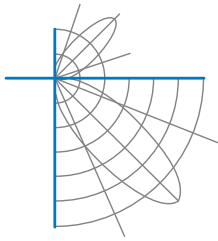
One ERP ESS015W-0350-42 dimmable LED driver.

120.0Vac, 60.00Hz, 0.1167A, 13.80W, 0.986PF, 13.4%THD(i)

Coefficients Of Utilization - Zonal Cavity Method																		
Effective Floor Cavity Reflectance 0.20																		
RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	95	90	85	80	88	83	78	75	69	66	63	57	55	53	46	44	43	37
2	86	77	70	64	78	71	64	59	59	54	50	49	45	42	39	36	34	29
3	78	67	58	52	71	61	54	48	51	46	41	42	38	34	34	30	28	23
4	71	58	50	43	64	54	46	40	45	39	34	37	32	29	30	26	23	19
5	64	52	43	36	59	48	40	34	40	34	29	33	28	24	26	23	20	16
6	59	46	37	31	54	43	35	29	36	30	25	30	25	21	24	20	17	14
7	55	41	33	27	50	38	31	25	32	26	22	27	22	18	21	18	15	12
8	51	37	29	24	46	35	27	22	29	23	19	24	20	16	20	16	13	11
9	47	34	26	21	43	32	24	19	27	21	17	22	18	14	18	14	12	9
10	44	31	24	18	40	29	22	17	25	19	15	21	16	13	17	13	11	8

For absolute test reports, CUs are expressed as a percentage of total lumen output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are lambertian reflectors. 2) Incident flux on each surface is uniformly distributed. 3) The room is spectrally neutral. When luminaires are not evenly distributed throughout the room, or do not exhibit lateral symmetry, CU values may differ from actual performance.

Height(ft)	Illuminance at Nadir (fc)	Beam Width (across 50% Nadir Illum)	
		0-180	90-270
6.0	3.6	10.31	7.54
8.0	2.0	13.74	10.05
10.0	1.3	17.18	12.57
12.0	0.9	20.61	15.08
14.0	0.7	24.05	17.59
16.0	0.5	27.48	20.11



Test Report No. LLIA001067-002A

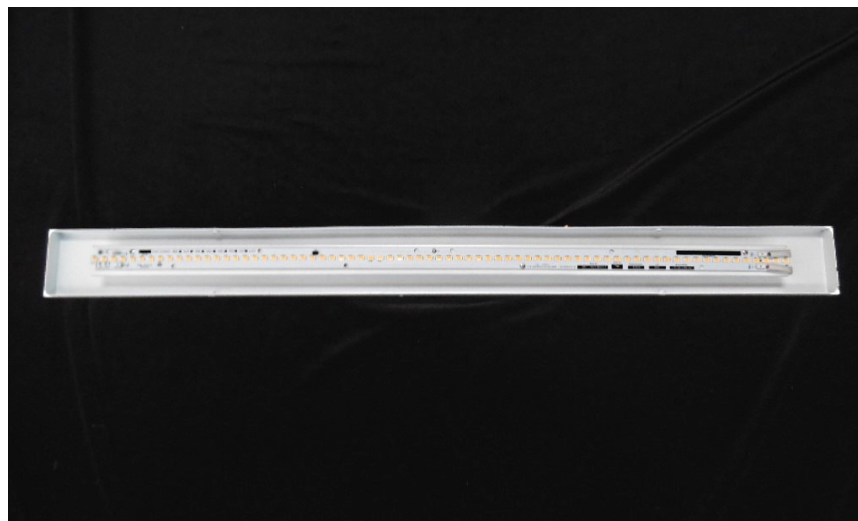
Catalog Number: 3-543 Orion Vanity

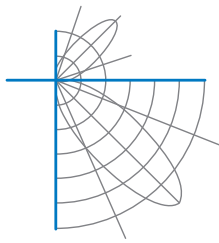
Surface wall mounted, formed steel housing, formed white enamel steel LED tray, translucent white plastic enclosure.

72 white LEDs, one Harvard Engineering LER7-568x17-930-72S-I LED board

One ERP ESS015W-0350-42 dimmable LED driver.

120.0Vac, 60.00Hz, 0.1167A, 13.80W, 0.986PF, 13.4%THD(i)





Test Report No. LLIA001067-002A

Catalog Number: 3-543 Orion Vanity

Surface wall mounted, formed steel housing, formed white enamel steel LED tray, translucent white plastic enclosure.

72 white LEDs, one Harvard Engineering LER7-568x17-930-72S-I LED board

One ERP ESS015W-0350-42 dimmable LED driver.

120.0Vac, 60.00Hz, 0.1167A, 13.80W, 0.986PF, 13.4%THD(i)

Test Distance 9.5 m
Test Temperature 24.8 °C

Notes

The laboratory has not participated in the selection of samples to be tested. All testing is performed on the understanding that the significance of the report is limited to the extent that the test sample is representative of production units.

Tested in accordance with the applicable sections of publications: IES LM-79-08 (Sec. 12), IES LM-16-93, IES LM-58-13, CIE 13.3:1995, CIE 15:2004, ANSI C78.377:2015, ANSI C82.77-10:2014.

The luminous intensity values, and other derived quantities, contained in this report are based on the absolute data, as measured.

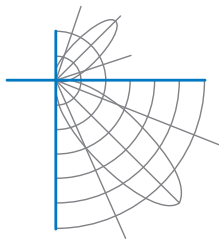
Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results.

This report is free of erasures and corrections.

Photometric intensity values are reported using the CIE Gamma coordinate system as defined in CIE publication number 121.

This report may contain data that are not covered by the NVLAP accreditation. Quantities marked with * are not covered.

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the Federal Government.



Report of Test

LLIA001067-002B

Integrating Sphere Report

Catalog Number: 3-543 Orion Vanity

Surface wall mounted, formed steel housing, formed white enamel steel LED tray, translucent white plastic enclosure.

72 white LEDs, one Harvard Engineering LER7-568x17-930-72S-I LED board

One ERP ESS015W-0350-42 dimmable LED driver.



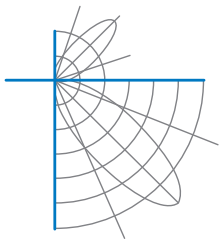
Performance Summary

Voltage	120.0 Vac
Current	0.1166 A
Power	13.80 W
Frequency	59.99 Hz
Power Factor	0.986
Current THD	13.5 %

Total Luminous Flux	1232.9 lm
Efficacy	89.3 lm/W
Chromaticity (x,y)	(0.4313, 0.3974)
(u',v')	(0.2498, 0.5179)
Duv	-0.0019
CCT	3042 K
CRI (Ra)	93
R9	65
TM-30: Rf	91
TM-30: Rg	101

Prepared For:
Oxygen Lighting
201 Railhead Road
Fort Worth, TX 76106, USA

Test date: 01/04/2019
Report date: 01/14/2019



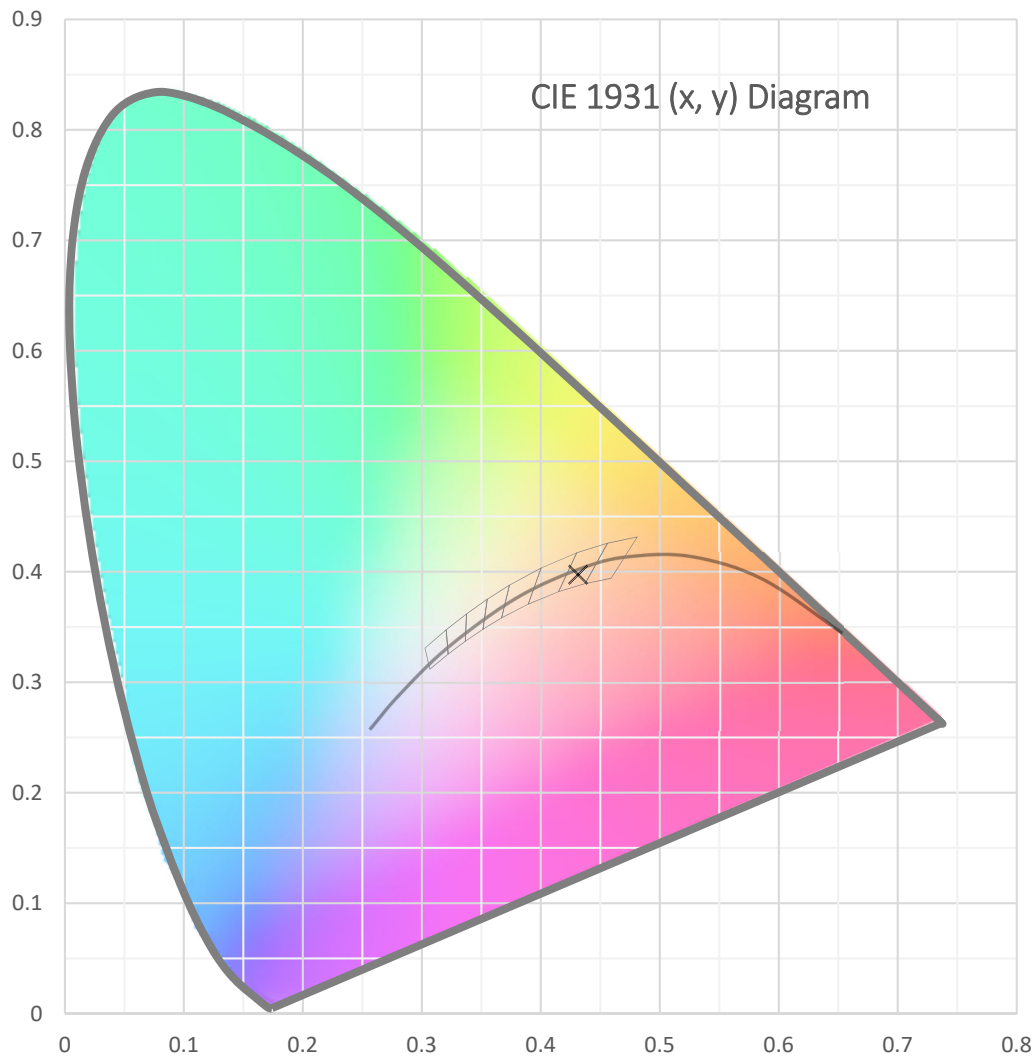
Test Report Number: LLIA001067-002B

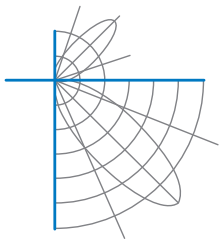
Catalog Number: 3-543 Orion Vanity

Surface wall mounted, formed steel housing, formed white enamel steel LED tray, translucent white plastic enclosure.

72 white LEDs, one Harvard Engineering LER7-568x17-930-72S-I LED board

One ERP ESS015W-0350-42 dimmable LED driver.





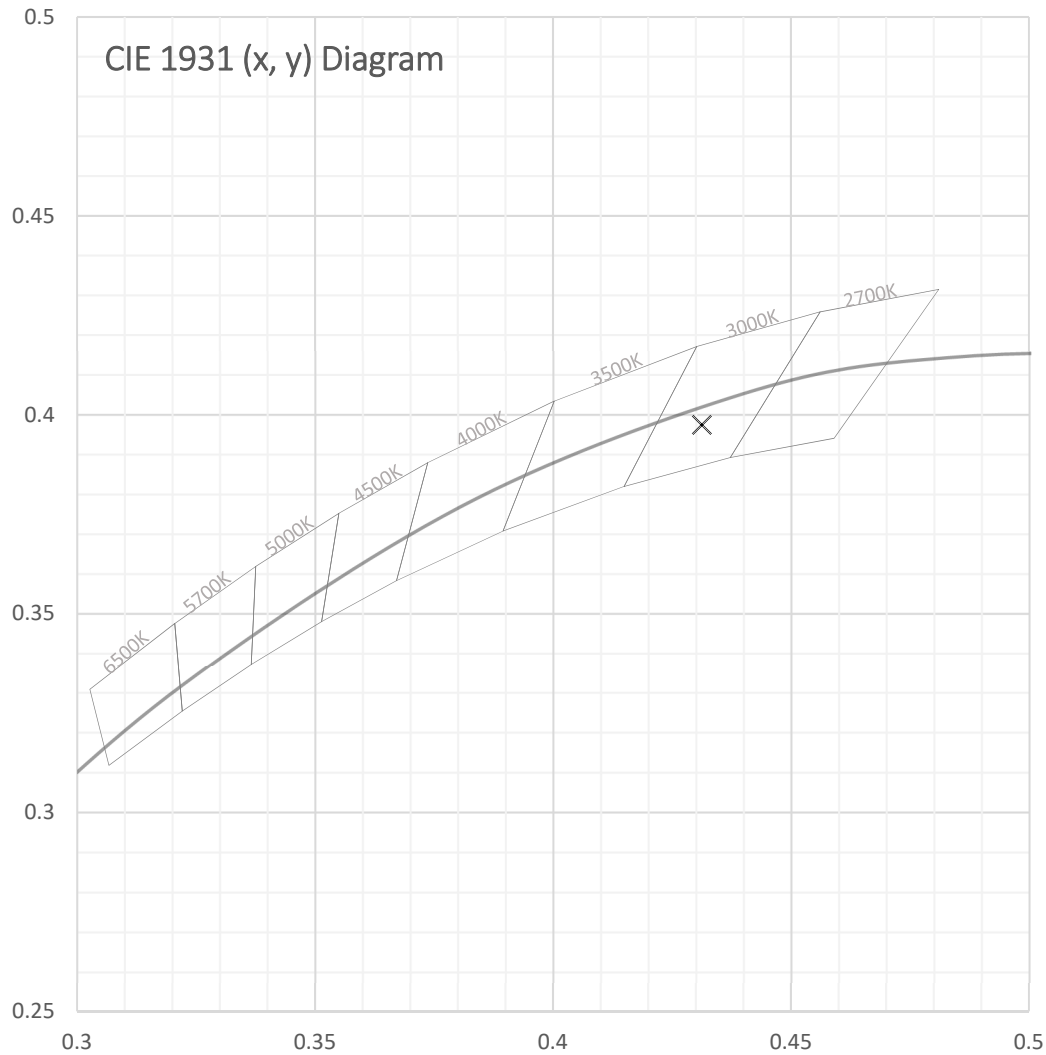
Test Report Number: LLIA001067-002B

Catalog Number: 3-543 Orion Vanity

Surface wall mounted, formed steel housing, formed white enamel steel LED tray, translucent white plastic enclosure.

72 white LEDs, one Harvard Engineering LER7-568x17-930-72S-I LED board

One ERP ESS015W-0350-42 dimmable LED driver.





Test Report Number: LLIA001067-002B

Catalog Number: 3-543 Orion Vanity

Surface wall mounted, formed steel housing, formed white enamel steel LED tray, translucent white plastic enclosure.

72 white LEDs, one Harvard Engineering LER7-568x17-930-72S-I LED board

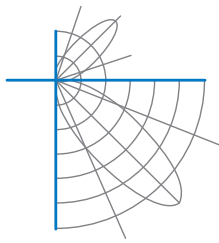
One ERP ESS015W-0350-42 dimmable LED driver.

Spectral Data

Total Radiant Flux	4.368 W
Total Luminous Flux	1232.9 Lm
Chromaticity CIE 1931 (x, y)	(0.4313, 0.3974)
Chromaticity CIE 1976 (u', v')	(0.2498, 0.5179)
Correlated Color Temperature (CCT)	3042 K
Color Rendering Index (Ra)	93
R1	94
R2	96
R3	97
R4	93
R5	93
R6	95
R7	93
R8	85
R9	65
R10	90
R11	93
R12	82
R13	94
R14	97
TM-30: Rf	91
TM-30: Rg	101
Distance from Planckian Locus (Duv)	-0.0019
Scotopic/Photopic Ratio *	1.435

Electrical Data

Voltage	120.0 Vac
Current	0.1166 A
Power	13.80 W
Frequency	59.99 Hz
Power Factor	0.986
Current THD	13.5 %



Test Report Number: LLIA001067-002B

Catalog Number: 3-543 Orion Vanity

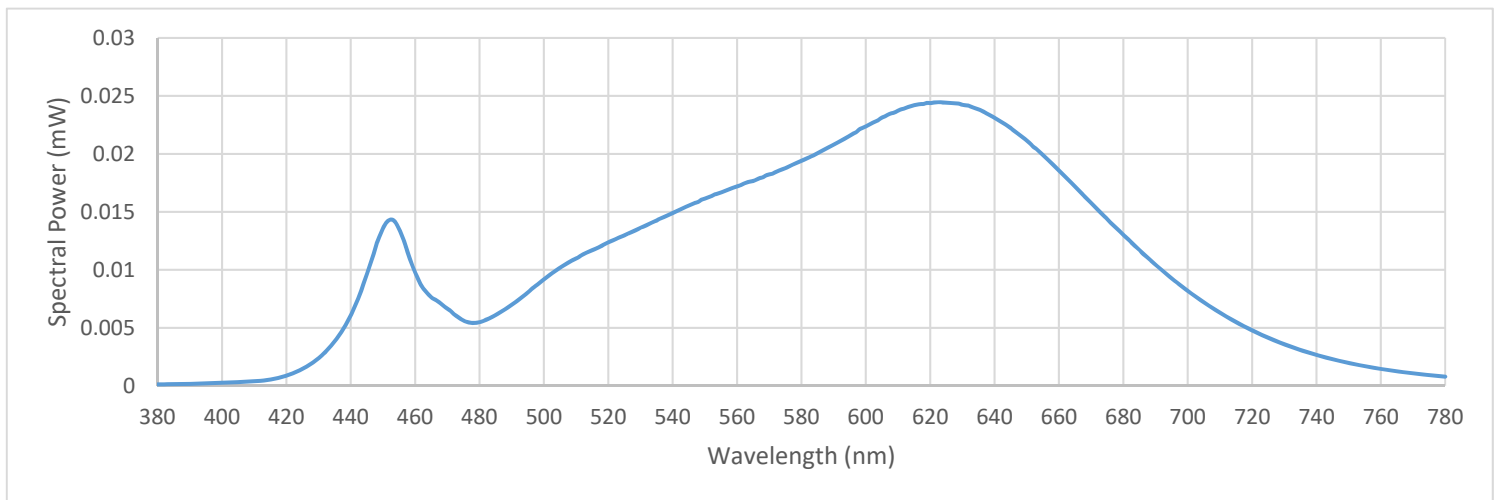
Surface wall mounted, formed steel housing, formed white enamel steel LED tray, translucent white plastic enclosure.

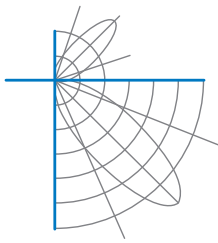
72 white LEDs, one Harvard Engineering LER7-568x17-930-72S-I LED board

One ERP ESS015W-0350-42 dimmable LED driver.

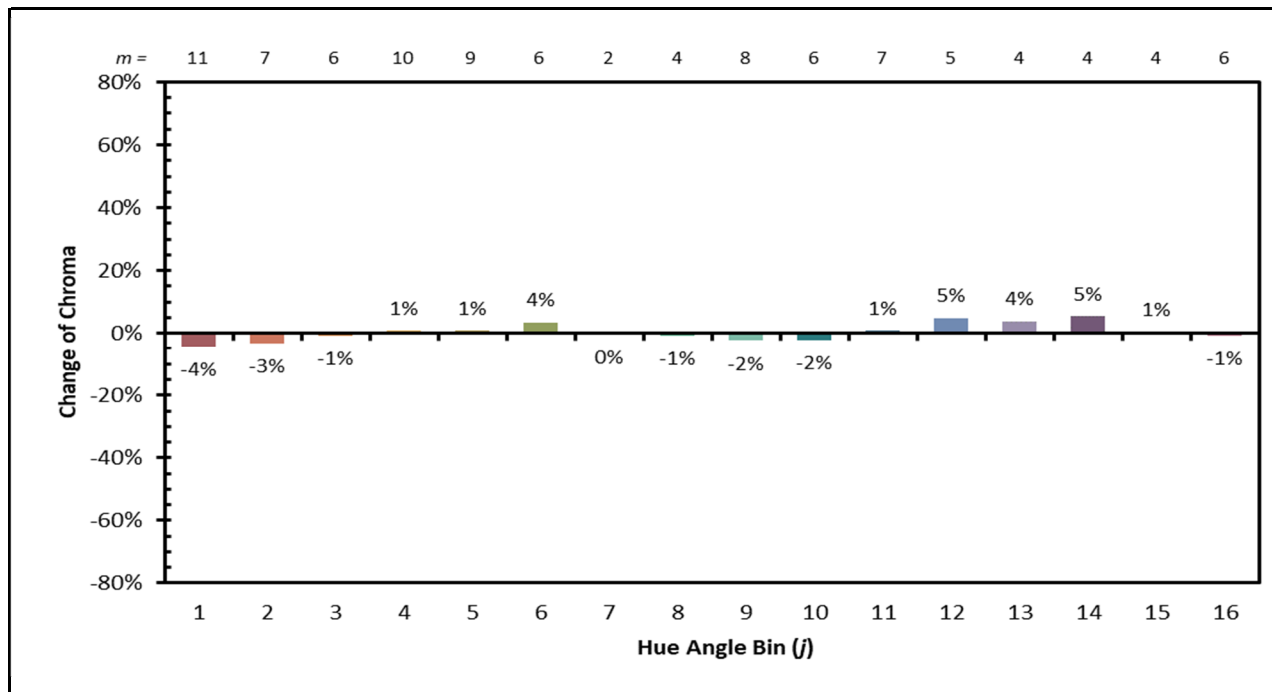
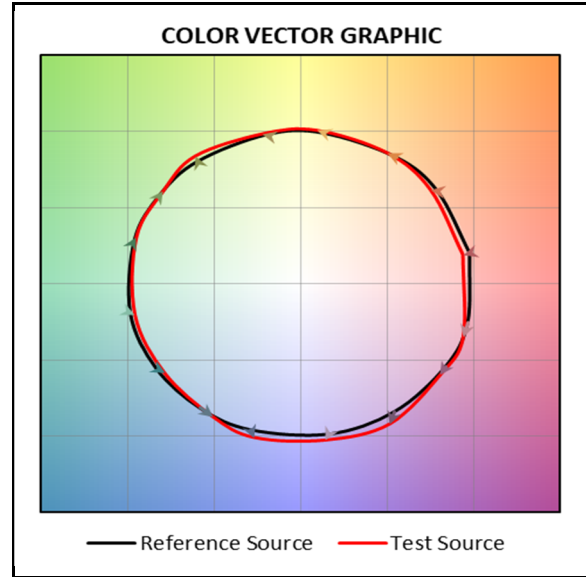
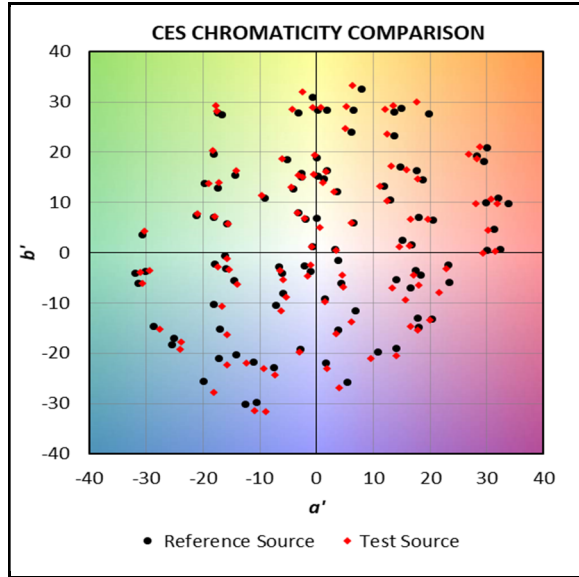
Summary Spectral Power Distribution (wavelength - nm, spectral power - mW)

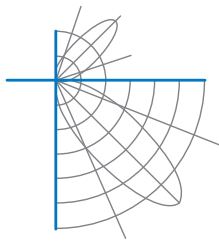
380	0.000124	480	0.005490	580	0.019389	680	0.013013
385	0.000137	485	0.006097	585	0.020071	685	0.011733
390	0.000166	490	0.006994	590	0.020795	690	0.010444
395	0.000204	495	0.008031	595	0.021558	695	0.009248
400	0.000259	500	0.009186	600	0.022367	700	0.008203
405	0.000316	505	0.010164	605	0.023130	705	0.007191
410	0.000391	510	0.010982	610	0.023731	710	0.006298
415	0.000532	515	0.011694	615	0.024187	715	0.005492
420	0.000882	520	0.012368	620	0.024379	720	0.004777
425	0.001462	525	0.012975	625	0.024411	725	0.004137
430	0.002387	530	0.013634	630	0.024232	730	0.003573
435	0.003842	535	0.014246	635	0.023838	735	0.003084
440	0.006048	540	0.014899	640	0.023109	740	0.002654
445	0.009632	545	0.015544	645	0.022231	745	0.002291
450	0.013573	550	0.016135	650	0.021148	750	0.001976
455	0.013536	555	0.016679	655	0.019910	755	0.001695
460	0.009787	560	0.017199	660	0.018581	760	0.001463
465	0.007632	565	0.017664	665	0.017170	765	0.001255
470	0.006655	570	0.018227	670	0.015753	770	0.001072
475	0.005614	575	0.018768	675	0.014392	775	0.000919
						780	0.000787





IES TM-30 Summary





Test Report Number: LLIA001067-002B

Catalog Number: 3-543 Orion Vanity

Surface wall mounted, formed steel housing, formed white enamel steel LED tray, translucent white plastic enclosure.

72 white LEDs, one Harvard Engineering LER7-568x17-930-72S-I LED board

One ERP ESS015W-0350-42 dimmable LED driver.

Test Equipment Configuration: LightLab International Allentown 2m Integrating Sphere
Measurements acquired using a Labsphere CDS 2600 spectroradiometer
Testing was performed using 4 π geometry

Test Temperature: 25.4 °C

Test Procedure: Tested in accordance with the applicable sections of:
LM-79-08, LM-78-07, LM-58-13, ANSI_ANSLG C78.377-2015,
ANSI C82-77-10:2014, TM-30-15

Significance: The laboratory has not participated in the selection of samples to be tested.
All testing is performed on the understanding that the significance of the report is limited to the extent that the test sample is representative of production units.

Notes: The measurements and other derived quantities contained in this report are based on the absolute data as measured.

Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results.

This report is free of erasures and corrections

This report may contain data that are not covered by the NVLAP accreditation. Quantities marked with * are not covered.